Program Approval

I. General Information

A. Institution: Wichita State University

B. Program Identification

Degree Level:	Master's
Program Title:	Master of Forensic Biology
Degree to be Offered:	Master of Science
Responsible Department or Unit:	School of Criminal Justice
CIP Code:	43.0406
Modality:	Traditional Classroom Instruction and Online
Proposed Implementation Date:	Fall 2025

Total Number of Semester Credit Hours for the Degree: 34

II. Clinical Sites: Does this program require the use of Clinical Sites? Yes

Students in the Forensic Biology Master of Science program will have applied learning activities with local and regional forensic laboratories. These forensic laboratories will include the new laboratory that the Bureau of Alcohol, Tobacco, Firearms and Explosives (https://www.atf.gov/) is building on Wichita State University's Campus.

III. Justification

Wichita State University (WSU) and the Fairmount College of Liberal Arts and Sciences request the Kansas Board of Regents approval to create the Master of Science (MS) in Forensic Biology degree. If approved, the degree will position Wichita State as the only national training site for the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) located on a public university campus, broadening the reach of Kansas institutions to other states. It will also enable the University to ensure a talent pipeline for forensic biologists who perform a critical function within the criminal justice and investigation system in Kansas, including local and state law enforcement agencies as well as national (ATF and FBI). The proposed degree program will support students at WSU as well as throughout the state of Kansas. Consequently, students at Emporia State University and Fort Hays State University will have opportunities to continue their education and training as forensic scientists, including criminal intelligence officers and/or firearms analysts. These collaborations will support Wichita State University's mission "as an essential educational, cultural, and economic driver for Kansas and the public good." With the aspiration to be one of the nation's premier urban public research universities, the Center for Excellence and National Integrated Ballistic Information Network (NIBIN) buildings and laboratories on the WSU Campus will provide impactful applied learning experiences for students. This will be a key economic driver for the region. Finally, this will raise WSU's profile as the only University in the nation with a formal training site for firearms, ballistics, and forensic biology outside Washington, D.C.

There are no programs within a 150-mile radius of Wichita State University that are focused specifically on forensic biology. However, there are three programs within 150 miles of Wichita State University that offer a Master of Science in Forensic Science with an emphasis or concentration in forensic biology.

1. The University of Central Oklahoma – located in Oklahoma – 143 miles from Wichita
2. Oklahoma State University – located in Oklahoma – 127 miles from Wichita
3. Emporia State University – located in Kansas – 77 miles from Wichita

WSU's proposed program will stand out and differ from those above. The Master of Science (MS) in Forensic Biology will provide the skills and knowledge needed to be employed as a forensic biologist within a federal

agency (*e.g.*, ATF) or a local/state crime lab. This addition to the strong curricular offerings in the School of Criminal Justice will enhance the recruitment of students to Wichita State University. As the only university in the nation with a full-service ATF lab on campus, WSU will be able to offer a unique program that will attract students from across the country. This program will complement the MS at Emporia State, giving students a choice between a forensic science focus at WSU and a crime-scene investigation focus at ESU. This new degree program will have applied learning opportunities with the ATF and other local/state crime labs that will boost the visibility of the Fairmount College of Liberal Arts and Sciences along with the School of Criminal Justice.

IV. Program Demand:

A. Survey of Student Interest

- Number of surveys administered: Surveys were distributed to students in Criminal Justice, Forensic Science, and Homeland Security courses.

- Number of completed surveys returned: ……. 64 .

- Percentage of students interested in the program: Of the 64 students, 52 had some interest, with 26 having a strong interest in a Master of Forensic Biology program.

Undergraduate students taking courses in the undergraduate Forensic Science program expressed the most interest in the Forensic Biology MS degree.

ATF projects that 100 students will enroll in the WSU proposed Master of Forensic Biology degree program. The School of Criminal Justice projects a more conservative estimated enrollment of an inaugural class of 25 students, with 30 admitted each year to a new cohort. Therefore, when the MS in Forensic Biology is fully up and running after three years, there will be at least 60 students in the degree program.

The School of Criminal Justice has 433 undergraduate students: 276 (89 seniors) pursuing a criminal justice degree, 129 (37 seniors) pursuing a degree in forensic science, and 28 (11 seniors) pursuing a homeland security degree.

The Department of Biological Sciences had 327 undergraduate students in the fall of 2024, 140 of whom were in their senior year. These students will be another cohort of students who could potentially be interested in applying for the MS in Forensic Biology.

The Department of Chemistry and Biochemistry will have 130 undergraduate students in the fall of 2024, 52 of whom are in their senior year. These students will also be another cohort of students who could potentially be interested in applying for the Master of Forensic Biology.

With nearly 900 students from these three undergraduate programs at WSU, including 329 seniors, and the ATF providing another pool of potential applicants, the modest projections of 25-30 students in a cohort a year appear attainable.

B. Market Analysis

While employment in forensic science-related occupations is expected to expand through 2031, this increase will lag total job growth in every reviewed geographical region.

Over the next decade, employment demand for related occupations is projected to increase by 0.3 percent in Kansas, while the projected growth for all occupations in the state is 2.5 percent. Similarly, national demand for forensic science-related occupations is expected to grow by 4.7 percent, which is slower than the national average growth for all occupations of 5.3 percent. This trend is also observed at the regional level. However,

state and regional projections will likely change as the new ATF's forensic lab is expected to employ 80-100 positions when fully staffed.

Among observed occupations, Detectives and Criminal Investigators are the largest group by demand volume; Biological Technicians are the fastest-growing group.

The need for a master's degree in forensic science-related occupations is dependent on the specialty of the employer. According to the American Academy of Forensic Scientists, "many disciplines" within General Forensics "require a master's or a doctoral degree," with experience requirements varying by education level and sub-field of interest. Additionally, most fields of specialization require employees to pursue continuing education in their field to keep up with new developments. For example, "criminalists must continually increase their knowledge in their discipline."

V. Projected Enrollment for the Initial Three Years of the Program

Year	Total Headcount Per Year		Total Sem Credit Hrs Per Year	
	Full-Time*	Part-Time	Full- Time	Part-Time
Implementation	25 | 00 (25 Total)	0	550	0
Year 2	30 | 25 (55 Total)	0	960	0
Year 3	30 | 30 (60 Total)	0	1020	0

*The cells in the full-time column separate Year One students in the program from Year Two students using this format XX | XX.

The MS in Forensic Biology would prepare students to work and process DNA in a working laboratory successfully. Students in the degree program will examine DNA from crime scenes as part of the applied learning in collaboration with the ATF (https://www.atf.gov/). Enrollment in the program would grow to at least 60 students in three years and serve as a talent pipeline for the ATF. The enrollment will phase in overtime with a first-year enrollment projection of 25 students, a second-year increase to 30 additional students, and a third-year increase to 30-40 students. The projected student count will be 60 plus students based on the projection of 100 students enrolled in the program by the ATF.

VI. Employment

The Bureau of Labor Statistics (BLS) notes that "overall employment of police and detectives is projected to grow 3 percent from 2022 to 2032, which is about as fast as the average for all occupations." In contrast, the BLS notes that "employment of biological technicians is projected to grow 5 percent from 2022 to 2032, faster than the average for all occupations."

VII. Admission and Curriculum

A. Admission Criteria

Admission to the graduate program in Forensic Biology requires a bachelor's degree in forensic science or natural science. A 3.0 GPA or higher in undergraduate work. The applicants for undergraduate work will be evaluated to determine if the applicant has sufficient scientific background to successfully complete the graduate program.

Applicants are expected to have nine credits for completed coursework in Biochemistry, Genetics, and Molecular Biology and should have at least one class in each area. If coursework deficiencies are identified, students may be required to take additional foundational undergraduate courses beyond those required for the graduate degree.

Additional requirements for admission into the Master of Forensic Biology program include:

- Three letters of recommendation, preferably from professors and/or supervisors familiar with your academic ability, work ethic, and skills.
- A statement of purpose describing your personal career goals and how the master's degree will support those goals, plus a brief description of experience or qualifications in support of the application.
- A Resume/CV/Vita.

B. Curriculum

Year 1: Fall **SCH = Semester Credit Hours**

Course #	Course Name	11
FS701	Forensic Science Overview I Seminar	1
FS710	Forensic Biology I	4
FS720	Population Genetics	3
FS703	Professional Responsibility and Quality Assurance	3

Year 1: Spring

Course #	Course Name	11
FS702	Forensic Science Overview II Seminar	2
FS721	Forensic Serology/DNA	3
FS711	Forensic Biology II	3
FS704	Applied Forensic Science Research Methods	3

Year 2: Fall

Course #	Course Name	9
FS712	Forensic Biology III	3
FS713	Forensic Biology Seminar	1
FS706	Criminal Law for Forensic Scientists	3
FS730	Capstone Research I	2

Year 2: Spring

Course #	Course Name	3
FS731	Capstone Research II	3

Total Number of Semester Credit Hours …….. 34

VIII. Core Faculty

The proposed MS in Forensic Biology program will be housed within the School of Criminal Justice. The school currently has five tenured/tenure-track faculty members and three non-tenure-track/instructors who will provide an overall foundation of support for the new degree program.

WSU will hire a director and adjunct instructors. Hiring a director with a PhD in Forensic Biology is a requirement for the program to become accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC). FEPAC is a division of the American Academy of Forensic Sciences (AAFS). In addition, WSU will use adjunct instructors to support the program. The adjunct instructors will be forensic biologists who have worked in (or are currently working in) a forensic laboratory. An example of a potential adjunct instructor would be Steven Weitz, Chief of the Forensic Crime Gun Intelligence Laboratory**.** Using adjunct instructors will ensure that WSU's program stays current on current practices and prepares individuals to have successful careers as forensic biologists in today's environment.

Note: * Next to Faculty Name Director of the Program, if applicable FTE: 1.0 FTE = Full-Time Equivalency Devoted to Program

Faculty Name	Rank	Highest Degree	Tenure Track Y/N	Academic Area of Specialization	FTE to Proposed Program
New Hire* TBD	Professor	PhD	Y	Forensic Biology	1.0
New Hire TBD	2 x Adjunct Instructor	PhD or MS	N	Forensic Biology	2 x Teach 3 cr. hr.
New Hire Admin Support	Staff		N	Shared position with the Master of Forensic Biology	.5
Andrea Bannister	Professor and Chairperson	PhD in Criminal Justice	Y		0.1

Number of graduate assistants currently assigned to this program ……. **0**

IX. Expenditure and Funding Sources

A. EXPENDITURES	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Faculty	$0	$0	$0
Administrators *(other than instruction time)*	$0	$0	$0
Graduate Assistants	$0	$0	$0
Existing Faculty Reassigned .1 Chair	$14,400	$14,400	$14,400
Fringe Benefits *(total for all groups)*	$4,400	$4,400	$4,400
Other Personnel Costs	$0	$0	$0
Total Existing Personnel Costs – Reassigned or Existing	$18,800	$18,800	$18,800
Personnel – New Positions			
Faculty	$80,000	$80,000	$80,000
Administrators *(.5)*	$17,500	$17,500	$17,500
Adjunct Instructors	$16,000	$16,000	$16,000
Support Staff for Administration (*e.g., secretarial*)	$0	$0	$0
Fringe Benefits *(total for all groups)*	$29,000	$29,000	$29,000
Other Personnel Costs	$0	$0	$0
Total Existing Personnel Costs – New Positions	$142,500	$142,500	$142,500
Start-up Costs - One-Time Expenses			
Library/learning resources	$0	$0	$0
Equipment/Technology	$0	$0	$0

Physical Facilities: Construction or Renovation	$0	$0	$0
Other	$0	$0	$0
Total Start-up Costs	$0	$0	$0
Operating Costs – Recurring Expenses			
Supplies/Expenses	$5,000	$5,000	$5,000
Library/learning resources	$0	$0	$0
Equipment/Technology	$0	$0	$0
Travel	$0	$0	$0
Other	$0	$0	$0
Total Operating Costs	$5,000	$5,000	$5,000
GRAND TOTAL COSTS	$166,300	$166,300	$166,300

B. FUNDING SOURCES *(projected as appropriate)*	Current	First FY (New)	Second FY (New)	Third FY (New)
Tuition / State Funds	N/A	$186,379	$325,315	$345,647
Student / Lab Fees	N/A	$57,040	$104,854	$112,136
Other Sources	N/A	$0	$0	$0
GRAND TOTAL FUNDING	N/A	$243,419	$430,169	$457,783
C. Projected Surplus/Deficit (+/-) (Grand Total Funding *minus* Grand Total Costs)		$77,119	$263,869	$291,483

X. Expenditures and Funding Sources Explanations

A. Expenditure

Personnel – Reassigned or Existing Positions
The proposed program will leverage the School of Criminal Justice's existing infrastructure to the extent that it would be beneficial. At this time, it is not expected that any teaching faculty currently in the School of Criminal Justice will need to dedicate meaningful time to the MS in Forensic Biology. The new program would be housed in the School of Criminal Justice under the direction of the current chair who would be assigned to a 0.1 FTE at $14,400 plus $4,400 fringe benefits.

Personnel – New Positions
WSU must hire new personnel to support the proposed program, including a director and adjunct instructors.

WSU intends to seek FEPAC accreditation for the proposed MS in Forensic Biology. To receive accreditation, WSU must hire a director dedicated to the program. Per FEPAC requirements, the program director shall be a

full-time faculty member with a PhD in a degree that emphasizes forensic biology. The director must be qualified by academic experience, research qualifications, and background in program administration to meet the proposed program's stated mission, goals, and objectives. The base salary of a director for this type of program would be approximately $80,000. Using a fringe percent rate of 30%, the fringe associated with the director would be $24,000. The projected annual cost of hiring a new director would be approximately $104,000.

WSU also intends to hire approximately two adjunct instructors per semester to support the proposed program. The adjunct instructors will be on a non-tenure track and have either a PhD or MS in a degree that emphasizes forensic biology. In addition, the adjunct instructors will be practicing or recently retired forensic biologists with intimate knowledge of the work within a forensic laboratory. WSU will use its growing relationship with ATF and other local and state agencies connected to forensic laboratories to identify adjunct instructors. These adjunct instructors will help ensure that WSU's program stays up-to-date on current practices. Each adjunct instructor will be paid $4,000 per 3-credit hour course, totaling $8,000 per semester $16,000 per year, and no fringe costs will be associated with these individuals.

Collectively, the director and the four adjunct instructors would be responsible for teaching all the courses for the program, which are identified above in the Curriculum.

From an administrative support perspective, WSU intends to hire an individual who can serve as both an administrative assistant and an academic advisor. This individual would be dedicated to the program as a 0.5 FTE. (The remaining 0.5 FTE associated with the individual would support the new MS of Forensic Firearms program that WSU is proposing alongside this program). As an admin/academic advisor, this individual would help advise students on the admission requirements unique to this program while also supporting the program director. Based on a market analysis, the base salary of an admin/academic advisor for this type of program would be approximately $35,000. Using a fringe percent rate of 30%, the fringe associated with the director would be $10,500. Because the admin/academic advisor is dedicated to the program as only a 0.5 FTE, the projected annual cost of hiring this individual would be approximately $22,750.

Start-up Costs – One-Time Expenses
In 2023, the ATF announced plans for a unique new National Forensic Laboratory at WSU. The forensic laboratory is part of a $75M facility that is being built on WSU's Campus. The forensic laboratory will utilize the latest DNA processing of firearms and ballistic evidence, adding 100 jobs for students and full-time staff. WSU will be able to use some of the space and equipment in the new forensic laboratory, thereby removing the need for WSU to make any one-time expenses associated with start-up costs for the proposed program.

WSU's Midwest Criminal Justice Institute (MCJI) has also received approximately $3M in grant funding from the Bureau of Justice Assistance to support Crime Gun Intelligence Training and Education. A portion of these grant funds can be used to support building a curriculum related to the proposed project.

As a result, no additional start-up costs are associated with the proposed program.

Operating Costs – Recurring Expenses
As a result of ATF's new forensic laboratory on WSU's Campus and the existing forensic science program at WSU, all equipment, library, and supplies have been accounted for, and no additional costs will be associated with the program. The School of Criminal Justice is allocating $5,000 each year for marketing efforts.

B. Revenue: Funding Sources
The MS in Forensic Biology program will be funded from two sources: (1) tuition and state funds and (2) student and lab fees.

The tuition and state funds generated are calculated using WSU's graduate tuition rate for in-state residents,

$338.87 per credit hour. In the program's first fiscal year, there will be 25 Year One students taking 22 credit hours each. In the second fiscal year of the program, there will be 30 Year One students taking 22 credit hours each and 25 Year Two students taking 12 credit hours each. In the third fiscal year of the program, there will be 30 Year One students taking 22 credit hours each and 30 Year Two students taking 12 credit hours each.[1]

The student and lab fees are calculated as follows:

- Mandatory Student Fees = $22.33 per credit hour[2]
- College of Liberal Arts and Sciences Course Fee = $8.21 per credit hour[3]
- Lab Fees = $25 per course[4]
- Student Support Services Fee = $742.35 per semester when a student is taking nine or more credit hours and $247.45 per semester when a student is taking up to 5.75 credit hours[5]
    - $742.35 per semester will apply for the first three semesters of the proposed program
    - $247.45 per semester will apply for the final semester of the proposed program

C. Projected Surplus/Deficit

Given the anticipated costs and revenue, the program is expected to see a small surplus in the first year after implementation but expects to see a larger surplus by the second year and third years. The program should generate significant revenue and be sustainable from tuition funds and standard student and lab fees. Surplus funds generated by the program will help improve the overall student experience at WSU and provide additional support to ensure continued growth for the School of Criminal Justice.

XI. References

U.S. Bureau of Labor Statistics:(2022, May); Occupational Outlook Handbook. Retrieved from https://www.bls.gov/ooh/media-and-communication/interpreters-and-translators.htm

Kansas Board of Regents. (2023, Month date). Kansas Public Higher Education & Training Program Search. (https://www.kansasregents.org/academic_affairs/program_search)

One Net – Data Base - O*NET https://www.onetonline.org/link/summary/19-4092.00

FEPAC Accreditation Standards (September 29, 2023). Forensic Science Programs Accreditation Commission. (https://www.aafs.org/sites/default/files/media/documents/2023%200929%20FEPAC%20ACCREDITATION%20STANDARDS.pdf)

[1] To be most conservative in the funding source calculations, WSU has assumed that all students in the program are in-state residents receiving in-state tuition; however, WSU expects that the program will also draw nonresident students.

[2] Year One is based on 25 in-state students paying $22.33 for 22 credit hours ($12,282). Year Two is based on 30 in-state students paying $22.33 for 22 credit hours and 25 non-resident students paying $22.33 for 12 credit hours ($21,437). Year Three is based on 30 in-state students paying $22.33 for 22 credit hours and 30 non-resident students paying $22.33 for 12 credit hours ($22,777).

[3] Year One is expected to generate $4,516 based on 25 students taking 22 credit hours. Year Two is expected to generate $7,882 based on 30 students taking 22 credit hours and 25 students taking 12 credit hours. Year Three is expected to generate $8,374 based on 30 students taking 22 credit hours and another 30 students taking 12 credit hours.

[4] Year One lab fees are $3,125 for 25 students taking 5 lab courses. Year Two lab fees are $6,250 for 30 students taking 5 lab courses and 25 students taking 4 lab courses. Year Three lab fees are $6,750 for 30 students taking 5 lab courses and 30 students taking 4 lab courses.

[5] Year One is expected to generate $37,118 for 25 students taking nine or more credit hours, $69,286 in Year Two for 55 students taking nine or more credit hours, and $74,235 in Year Three for 30 students taking nine or more credit hours and additional 30 students taking up to 5.57 credit hours.